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MEDICAL EXPERT TESTIMONY.

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Much has been said and written upon medical expert evidence, a subject which is confessedly admitted to be one of considerable practical interest to every member of the medical profession, since no one can tell when it may become his own particular duty to appear upon the witness stand for the purpose of giving such evidence. There still, however, lingers in the minds of many medical men some confusion in regard to the precise status of the medical expert. What are his requirements? What are his privileges? and what should be his compensation?

Before attempting to answer these questions, let us first clearly understand the distinction (which is often overlooked) between an "expert" witness and an ordinary witness. The latter is called upon to testify simply to facts that have come under his own immediate observation, as *e. g.*, when he has seen one person commit an assault upon another; when he has happened to be the spectator of some accident; when he has overheard a conversation connected with some crime, etc. Here, it will be observed, the witness testifies exclusively to what has come within his own personal knowledge; he must exclude everything that has been communicated to him by a third party; in other words, his information must not be second-hand.

The "expert" witness, on the contrary, does not testify to facts; he simply gives his opinion as to the causes which have produced certain alleged results. He weighs, so to speak, the facts which have been testified to by others, sits in calm judgment upon them, and deduces conclusions from them, which he delivers to the court and jury as his *opinion*. For example, in a homicide case, it is his business to listen to the details of the murder as related by the eyewitnesses, and likewise the account of the post-mortem examination as described by the physician; and in a poison case, likewise, the results of the chemical examination; and then he must state his opinion whether or not the death has really been caused by violence, and by the particular kind of violence then and there inflicted. Now, it is to be observed that this "opinion" of the medical expert need not necessarily be infallible. It may even, quite possibly, be incorrect. Its correctness will depend, 1st, upon the expert's ability or competency, and 2d, upon his honesty or truthfulness. It is really upon the former of these that the issue will usually turn, inasmuch as the latter is supposed to be insured by his solemn oath or affirmation. Still, as we have said, the expert witness is not infallible: he may err in his judgment; yet, paradoxical as it may at first sight appear, he cannot make a mistake in his testimony, as the ordinary witness may, and often does; for, while the latter testifies to facts (or alleged facts), about which he may readily make a mistake, being deceived by his own senses, as *e. g.* in a case of personal identity, the former merely gives his opinion concerning these facts, and he cannot be mistaken about its being his *opinion*, and

that is all he swears to. Whether the opinion be correct or not is a point for the jury to determine. Further than this, he is not to be held responsible for the *result* of his opinion, even though this result be the conviction and execution of the prisoner. This idea is fraught with solemnity which at times becomes most painful; and it ought to produce in the mind of the "expert" witness a deep sense of his responsibility, especially in a capital case. In the language of Dr. Percival, "he should use his best endeavors that his mind be clear and collected, unawed by fear, and uninfluenced by favor or enmity."

We are now prepared for the question—What are the requirements of the medical expert witness? In brief, these may be summed up in the single homely sentence, that *he should understand what he is talking about*; in other words, that he should be thoroughly acquainted with the matter on which he is giving evidence. This at once suggests the remark that it is by no means every medical man that is qualified to give expert testimony. The very definition of the term "expert" implies that the witness should be "skilled"—having accurate knowledge of the matter under consideration. Such witnesses are chosen, says a high authority, "on account of their special knowledge or skill in particular matters, to testify or make a report embodying their opinions." For example, if it be an action for malpractice, in which damages are claimed by a patient for the shortening of the leg, or some other permanent deformity, alleged to be the result of a faulty treatment of the medical attendant, who, think you, should be selected as the proper expert witness to enlighten the court and jury as to the nature of the original injury, the proper diagnosis, the natural and unavoidable complications attending it, the proper mode of treatment to be adopted, and the necessary pathological and physical results? Certainly, we would not call upon the chemist, however profound might be his analytical skill, or however brilliant his abilities as a teacher; neither would we invoke the aid of the obstetrician, the botanist, the physiologist, or even the general practitioner of medicine, however well established be his reputation. But we instinctively turn to the *surgeon*, as the one whose life-long professional training and experience especially qualify him to give a satisfactory solution to the intricate questions

involved. Again, suppose the case to be one embraced in the domain of obstetrics: an action for damages is brought in the case of death from rupture of the uterus during delivery, or on account of a horrid recto-vaginal fistula, alleged to be the result of carelessness or want of skill on the part of the accoucheur; or, it is a charge of puerperal fever, or syphilitic contamination, transmitted through the hand of the obstetrical attendant. Who so competent to act as the intelligent "expert" witness here, as the thoroughly accomplished *gynecologist*? And finally, in a case of alleged death from poisoning—where the decision of the case, and through this, the momentous question of the life or death of the prisoner, hangs suspended upon the expert's testimony regarding the symptoms, post-mortem appearances, and above all, the detection of the lethal substance in the organs and secretions of the body of the deceased—who should be selected for this all-important function, but the skilled and practical *toxicologist*? Most assuredly neither the surgeon, the obstetrician, nor even the general practitioner would be over anxious to be put "under fire" on the witness stand, in a case like this.

Now, all this seems so clear and self-evident to us, that the wonder is that any sensible man should have the presumption to incur the very grave responsibility of the "medical expert," especially in a capital case, unless he be in very deed and truth "skilled" in the matter under consideration. Yet the history of many of our celebrated trials, and notoriously of poison cases, discloses numerous instances where medical men, of otherwise excellent professional reputation, have figured most discreditably in the witness-box, simply because they presumed to place themselves in a position for which they were not qualified: they were not *expert* in the true sense of the term.

So much for the requirements of the medical expert. Let us now consider his privileges and his proper remuneration. The first point to settle here is, Is the expert witness subject to all the laws and restrictions imposed upon the ordinary witness? Must he implicitly obey any subpoena that may be served upon him, no matter at what personal inconvenience, nor whether he be interested in the case or not? May he be summoned at the beck of anybody, whether plaintiff or defendant, whether known or unknown, to leave his daily business, and to

travel, it may be, hundreds of miles from his home, at great pecuniary loss, and be compelled to give his evidence, and undergo the seething ordeal of the cross-examination, without adequate compensation? Our reply is, that every witness is compelled to obey the mandate of the court, issued in the form of a subpoena. The medical expert is no exception. Still there are limits, even here. No witness can be forced to give testimony (in this country) outside of his own State. If he does so, it is voluntary on his part, and he may make his own terms. But within his State the case is different. In Pennsylvania, the attendance of an expert witness is limited, in civil cases, to his own county; but in criminal cases he may be called anywhere within the confines of the State. The theory of the law is that every citizen is bound to contribute his quota of knowledge toward the enlightenment of the court and jury. This is unquestionably true of the medical witness as much as of any other witness, so far as he is simply to testify *to facts within his own knowledge*; he can certainly claim no exemption here on the score of his profession. But when he is called upon to give his professional opinion upon a matter with which he is peculiarly conversant from the nature of his profession, and the knowledge of which he exclusively possesses as the result of his own study and application, then we think the matter assumes an altogether different aspect. Our own opinion is that the expert witness occupies an entirely different position from the ordinary witness, on the witness-stand. The moment that he begins to deliver his "opinion" as a medical man, he is giving to others what is especially his own private property—that which has been acquired by the expenditure of much labor, time and means on his part, and which no person and no court can take from him without his consent, or without a proper consideration. Certainly, this is common sense and common justice, if it is not common law. We would ask, on what principle of morals or of propriety should a man be compelled to part with the labor of his brain, any more than with the labor of his hands, without an adequate compensation? The law universally acknowledges the latter claim; why not equally the former? Can anything be conceived to be more peculiarly the private, individual property of a medical man than his *professional opinion*? Has he not spent his

time, and money, and health, for years past, just to acquire the skill and ability to give this very opinion? Is he not precisely on the footing of the skilled artisan, who, after years of toil and thought, produces some exquisite model of artistic beauty—the living embodiment of what might be figuratively termed *his* professional opinion? Does not the physician earn his livelihood by the sale of his professional opinion? Everybody knows that it is not by the sale of drugs, but by the dispensing of his *advice*, that the physician makes his living. By the statute law of some of our States it is expressly provided that "no man's property shall be taken by law without just compensation;" also, that "no man's particular services shall be demanded without just compensation." Now, according to Blackstone, "every man has a right to use his own as he pleases, so long as he does not injure another in his person or his rights;" and among the natural rights of mankind is the right to acquire property; "not one kind of property merely, such as houses and lands, but every kind of property, such as knowledge and skill, or the products of brain labor, copyrights and patent rights." So says Chancellor Kent, certainly no mean authority. Now, the State constitution authorizes the legislature "to take the property of the people, when necessary for public use, by paying for it." Certainly, then, the State has no right to take the property of an individual, which consists of his "professional opinion," without paying for it.

All this is sufficiently logical, and yet, as we well know, it is far from being an established principle that the expert witness shall receive an adequate remuneration for his services. Indeed, the contrary is the prevailing practice. As a rule, throughout this country, the expert witness does not receive for his services any higher compensation than that doled out to the ordinary witness, *one to two dollars a day and mileage*. Of course, there are exceptional cases, where, for example, the issue is an important one, and especially if the expert is retained by the defendant, and the latter is able to pay; then, there is usually some agreement made beforehand as to the compensation. Besides, we believe that no experienced counsel would be willing to trust an important case with a *reluctant* witness; and surely he would be a reluctant witness who had been dragged hundreds of miles from his home

and business against his will, and without the prospect of any adequate remuneration !

Let us see if we cannot learn something on this subject by reference to our friends the lawyers. Are members of the legal profession in the habit of giving their professional opinions, at trials, without remuneration ? The idea is preposterous. If a criminal about to be put on trial should deem the opinion of an attorney essential to his defence, he does not dream of demanding it as a matter of right, without first paying for it ; and who shall say that the "opinion" of the medical expert, given at the trial—the result often of profound study and anxious thought, may not be of even greater value, either as for or against the criminal, than that of the attorney ? Why, then, should more be required of the one than of the other ? Now, the law expressly protects the attorney. In the case of *Webb v. Baird*, 6 Ind. 13, the court says : "To the attorney, his profession is his means of livelihood. *His legal knowledge is his capital stock.* His professional services are no more at the mercy of the public, as to remuneration, than are the goods of the merchant, the crops of the farmer, or the wares of the mechanic." This we deem to be sound doctrine ; and we do not see the slightest reason why, in justice, it should not equally apply to physicians.

In the often quoted case of *Webb v. Page*, 1 Car. and Kir., 23, the late Mr. Justice Maule draws the distinction between an ordinary witness who is called to testify to a fact that he saw, and the skilled witness "who is selected by a party to give his opinion on a matter with which he is peculiarly conversant from the nature of his employment in life. The former is bound, as a matter of public duty, to speak to a fact which happened to have fallen within his knowledge ; as without such testimony the course of justice must be stopped. The latter is under no such obligation. There is no such necessity for his evidence, and the party who selects him must pay him." The judge here manifestly takes the ground that the expert is exempted, not from testifying to facts, if he happens to know them, but only from testifying to his *opinions* ; because such opinions are the witness' private property, and neither individuals nor the public have the right to compel him to part with them without a due consideration.

Professor Ordronaux, of the Law Department

of Columbia College, New York, one of our highest living authorities on this subject, is equally emphatic on this point. He says, speaking of medical experts, "Once upon the stand as a skilled witness, his obligation to the public now ceases. He stands in the position of any professional man consulted in relation to a subject upon which his opinion is sought. . . . Neither the public, any more than a private person, have the right to extort services from him, in the line of his profession, without adequate compensation. On the witness stand, precisely as in his office, his opinion may be given or withheld at pleasure, for a skilled witness cannot be compelled to give an opinion, nor committed for contempt if he refuses so to do."

This is, certainly, language clear and emphatic ; and if it only had the force of a judicial decision, it would settle the matter most satisfactorily.

One or two apparent objections have been urged against this sound doctrine, which are easily disposed of. It has been said that, if the medical witness may demand pay in advance for giving his professional opinion, why may not the farmer, when asked his opinion as to the value of land in his neighborhood, also demand additional pay ; and so of every one who is called upon for his opinion ? The answer to this is obvious. If it was the farmer's life business to give opinions as to the value of land ; if this was the source of his income and livelihood, then he should unquestionably have the right of additional compensation. But such opinions are not part of his business as a farmer ; he does not sell them, as the physician and lawyer sell theirs. Such opinions are not required of farmers exclusively ; the subject of the value of land is within the reach of all, and all may form and express opinions thereon. The same may be said in reference to all other callings, where the "opinion" demanded forms no part of the means of their subsistence.

But it has been alleged that the medical expert is no more entitled to his fees for his professional opinions, than are the officers of the court, who receive no extra compensation for their services in criminal cases where there is an acquittal. This is merely a subterfuge, since, in the language of the Supreme Court, "while they (the officers) nominally serve the State gratuitously, they in reality get their pay, because the State fixes the rate of fees they

charge private parties so high as to compensate them, in their aggregate receipts, for their services in State cases, where there are no quittals." In point of fact, nobody believes that any person about the court, from the judge down to the crier and tipstaves, ever renders his services without an adequate compensation; and neither ought they to be required to do so.

But, again, it may be said that when the criminal is too poor to provide himself with counsel, the court, out of its humanity, appoints suitable counsel expressly to defend him; and as no previous demand for compensation is made by the latter for their professional skill and labor, therefore, the medical expert has no better right to a fee for his professional opinion. Now, there might be some appearance of plausibility in this argument, if the premises were true, which they are not. We have yet to hear of the criminal case in which the court assigned counsel to the defendant in consequence of his poverty, where some remuneration was not made for the professional services thus rendered. Of course, this compensation comes out of a fund provided by the State for this and other like contingencies. We speak advisedly on this point, since it has fallen to our own unhappy experience to be summoned, not long since, as an expert witness at a criminal trial, where we were assured that a specific sum had been thus set aside by the court for the payment of the counsel assigned to the prisoner; but not a farthing of it came into the pocket of the expert, even though there had been a tacit understanding to the contrary with one of the said counsel, by whom he was subpoenaed! We would like to ask, just here, this simple question: Why should not the medical expert be paid out of this same State fund?

From all that has been said, we must arrive at the following conclusions: that the question of adequate compensation to medical experts is by no means yet settled in this country; and that it is one which demands the serious consideration of the profession, as a matter both of principle and of right; and that, while the law in this country does not sanction this right, the broad principles of equity and justice do most clearly establish it. And, further, that it is the duty of the medical profession to agitate this question until a healthy public opinion shall compel such a change in our statutes, that both

equity and law may be in perfect harmony on this subject.

Before concluding, we desire to acknowledge our obligation, for some of our suggestions, to two admirable briefs recently drawn up for the Supreme Court of the State of Indiana, in which two physicians of that State, Drs. Alpheus B. Buchman and Thomas J. Dills, appeal from the decision of the lower court, which had committed them for contempt, in refusing, as experts, to give a professional opinion at a certain trial, without previous compensation. These were made test-cases; and by agreement they were taken up to the Supreme Court, in order finally to determine this long-mooted question. The arguments of the appellants' counsel in both these briefs are admirable, and appear to us unanswerable; they cover the whole ground; and we shall await, with much interest, the final decision. And we cannot forego this occasion to express our approval of the manly and determined course pursued by our professional brothers, the appellants in these cases; and to accord to them our thanks, in the name of our common profession. Another case has lately occurred in Virginia, where two physicians, when placed upon the stand as medical experts, refused to answer unless paid a reasonable compensation in advance. The judge, after due consideration, held that they were not bound to answer until paid. It is stated that this case has also been taken to the Supreme Court for adjudication. The final issue has not yet been made known.

Since writing the above, we have been informed that, in the Indiana case, one of the judges of the Supreme Court has delivered an elaborate opinion affirming the action of the lower court; that is, denying the right of the expert witness to demand extra compensation for his testimony. The result in this particular case was that the two physicians concerned were remanded to prison, and only subsequently obtained their release by giving their testimony as desired, in the criminal court. While we deeply regret this decision, our convictions are not in the slightest degree shaken as to the propriety, the fairness, and the justness of the principle that we have been advocating. This is not the proper occasion to attempt a legal criticism upon this decision. Whether it will be sustained by the Supreme Court of Indiana in full bench, remains to be seen. Most probably it will. But even this may

not be final, since it is notorious that even learned judges differ from one another, in their written opinions, quite as much as their often ridiculed brethren of the healing art. To our obtuse comprehension, however, it seems singular that while in the above decision the judge fully admits the right of the attorney to compensation for his professional services, he with the same breath denies a similar right to the medical expert, although both were engaged in the same case, and each contributed precisely the same sort of skill, and knowledge, namely, that which was the result of mental effort. To call one a particular service, and not the other, in the language of the judge, fails to enlighten our dull intelligence, or to satisfy our common sense; but, then, law is law, however law may *not* be justice; and so long as this is the law, it is, of course, our duty to observe it. But this will only serve to give emphasis to what we have already remarked upon the duty of the medical profession, earnestly and unitedly to agitate this question, and to carry it higher than even the supreme court of the state—to the source and fountain of the law—the legislature, where we may hope for a repeal of the obnoxious statute, if it really exists, or the enactment of a new, sound and healthy law upon this subject.

A CASE OF HYDROPHOBIA.

BY CHARLES C. PIKE, M.D.,
Of Peabody, Mass.

February 20th, 1878, at about six o'clock in the evening, I was called to see Wm. M., a young man, twenty-six years old, by trade a morocco dresser. I found him lying on a sofa, dressed. The patient said that he had not felt well for three days, but that he had worked at his trade the day before; he complained of a dull heavy pain in his right shoulder, shooting up toward the neck, and sometimes extending downward toward the elbow. He said that occasionally when he attempted to swallow anything, whether fluid, or solid, but more particularly if it was fluid, he felt a choking sensation. He had been unable to eat anything, since the morning before. He felt hungry, but could not bring himself to the necessary effort of trying to swallow. His pulse was 86, full and strong, temperature 99°. Tongue slightly furred; Breath somewhat offensive. Mucous membrane somewhat congested, es-

pecially about the fauces; no membranous patches; saliva very viscid. Noticed that there seemed to be a general capillary turgescence of all exposed parts of the body. Suspecting that this might prove to be a case of tetanus, I questioned him carefully, but could learn nothing to confirm the suspicion. I then thought of hydrophobia, although he had not mentioned having been bitten. Concerning this point I made inquiries of his boarding mistress, and learned from her that on Christmas day, just eight weeks before, he had been severely bitten through the right hand, by a Newfoundland dog. That a physician cauterized the wound with nitrate of silver. That the dog had been followed, but was not found, so that whether it was rabid or not, could not be learned. I expressed fears, to his friends only, that the poor fellow had hydrophobia. Ordered him 20 grains chloral hydrate and 30 grains brom. pot., by clyster, together with beef tea and milk every four hours, all of which were retained.

February 21st, morning. Patient no better. Pulse 90; temperature 100°. Had had only a few minutes' troubled sleep at a time. Looked very haggard and worn, and presented a sallow appearance, which strongly reminded me of the cachexia of puerperal fever. Patient had not been able to lie down, any attempt to swallow bringing on slight spasms, which were also easily produced by a very slight draught of air, or even the jar produced by walking across the floor. Could suck pieces of ice; ordered frozen milk; continued former clysters; also gave $\frac{1}{16}$ of a grain of atropia, hypodermically.

February 21st, evening. Pulse 108; temperature 101.5°. Could not swallow. Had frequent involuntary spasms of muscles of the throat and chest. The tired, careworn look was not as noticeable, but had given place to a wild maniacal look. Complained much of the sense of constriction of the throat; also of the pain in his shoulder, but said he was better than yesterday, only at times he felt as if he should lose his mind. Discontinued the chloral hydrate and bromide of potassium. Continued beef-tea and milk injections. Also gave $\frac{1}{16}$ of a grain of atropia, hypodermically.

February 22d, morning. Patient decidedly worse. Pulse 120; temperature 102°. Seems very nervous indeed. Bowels moved slightly. Repeated the atropia $\frac{1}{16}$ of a grain. I may

here mention that from the first the pupils were rather dilated, and that the use of the atropine did not appreciably affect their size; neither did it seem to increase or diminish the sense of constriction or choking.

Noon. No particular change. Pulse 132; temperature 130°. Met Dr. A. H. Johnson in consultation. He suggested the external application of tincture of aconite, chloral hydrate, and camphor, in equal parts, to the whole length of the spine, also the hypodermic use of chloral hydrate and atropine. No mention had heretofore been made of hydrophobia to the patient, neither had he referred to the bite in any way. Through the over-officiousness of a friend of the patient, an irregular practitioner saw him, and in his presence remarked that it was a case of hydrophobia. Whereupon the patient, who had evidently been hoping against hope, exclaimed, "Oh God! I am sorry you mentioned that," and very soon afterward became frantic with distress. Also became somewhat delirious; when much excited, noticed that he could chew pieces of beefsteak, and even swallow them, with some little difficulty. Also noticed that he did not mind a slight draught of air, when not paying attention to it. From this time forth he said that he should die, and talked freely of his having been bitten, etc.

2 o'clock P.M. Patient had become so wild and unmanageable that nothing could be done for or with him. His attendants becoming afraid of him doubtless increased his excitement. He would get down upon his hands and knees and moan with distress; and when trying to rid himself of the terribly viscid mucus which seemed to fill his throat, the masseter muscles would contract spasmodically, causing his jaws to come together violently, all of which was promptly construed into "dog practice" by his horrified attendants. I thought it best to administer an anæsthetic, which I accordingly did, assisted by several men. Found that chloroform acted promptly and kindly. While under its influence I had a camisole put upon him. After recovering from the anæsthetic he was somewhat delirious, but very quiet, and almost entirely free from spasms. Was very malicious and treacherous; would occasionally kick or spit at his attendants if they gave him a chance to do so.

Evening. Patient again very restless, though not as much so as heretofore. Pulse 136, tem-

perature 105°. Talked rationally; asked to have the camisole removed; said he would do no harm. I therefore removed it. Looked and seemed very grateful, but was very nervous, constantly patting his feet on the floor, and endeavoring to clear his throat. Could lie down; has chewed and swallowed several small pieces of beefsteak. Gave beef tea and milk injection, which was retained; also gave, hypodermically, chloral, ten grains, atropine, one twentieth of a grain; after which he seemed more quiet. He remained comparatively comfortable for several hours, although making frequent attempts to raise the viscid mucus from his throat. About 2 o'clock A. M. he became more restless, sighing and talking incoherently; evidently was sinking. I was summoned, but when I arrived he had just expired, apparently dying from nervous exhaustion. I would add, that several medical gentlemen beside Dr. Johnson and myself saw the case, all confirming the diagnosis.

Autopsy, fifty-five hours after death, conducted by Dr. A. H. Johnson. Rigor mortis extreme. Appearance of the cadaver unusually revolting, owing to the oozing of the bloody and frothy mucous from the mouth and nostrils. A peculiarly brutal and malicious expression, from the rigidity of the muscles of the face, and the mahogany color of the skin of the upper half of the chest, of the throat, and of the right arm. Considerable decomposition apparent over the abdominal surface. Cicatrix of the bite presented no remarkable appearance. Brain.—Blood vessels much distended; convolutions somewhat flattened. Choroid plexus somewhat congested. Small amount of fluid in ventricles. The cortical substance congested so as to sharply and strongly contrast with the white fibrous portions. Corpus striatum darker than usual; is of a light chocolate color. Meso-cephalon greatly congested. Heart.—Right ventricle and auricle moderately distended with dark fluid blood; lining membrane of right ventricle, pulmonary artery and the valves, of a dark mahogany color. Left ventricle and auricle distended with soft, tarry-looking clots; heart otherwise healthy. Lungs distended to the full capacity of the chest, their vessels filled with blood, their surfaces uneven, with many shallow depressions, produced by atelectasis. Kidneys—cortical substance congested. Right kidney much more congested than left. Liver somewhat congested, otherwise normal. Stomach congested in large curvature, and contained about

a pint of greenish fluid. From observation of this case, and a study of the disease to which it has led me, I feel confident that hydrophobia is not produced by apprehension and nervous excitement, but rather that it is a specific blood poison, which expends its force upon the nervous system, as indicated by the rapid exhaustion and the so far invariably fatal results. The inability to swallow would naturally lead one to suspect the disease, but the inability to swallow, accompanied by an involuntary contraction of the muscles of deglutition when liquids are presented, together with the spasm produced by a draught of air or a sudden flash of light, are, I think, symptoms sufficient to indicate the nature of the disease. In this case it will be observed that nothing gave much, if any, relief, save chloroform. I think the unfortunate naming of the disease in his presence hastened the necessity for its use, and that it even hastened the patient's death.

In view of the present knowledge of the profession, and of the terrible suffering of hydrophobic patients, I would, if called again to treat it, make early and free use of chloroform, of course endeavoring to keep up the strength of the patient by nourishing injections, stimulants, etc., as best I could. Chloroform would seem to be preferable to ether, because of its more rapid effect and more agreeable smell. Probably the danger from syncope is very little, owing to the general capillary congestion. The use of large doses, hypodermically, of chloral hydrate (gr. 20) and atropine (gr. $\frac{1}{15}$) seemed to have a somewhat sedative effect, yet far less so than chloroform. Finally, from what we know of the disease, it would seem that what is done curatively must be done in anticipation of the acute symptoms, by promptly destroying the poison at its point of entrance, with caustics.

CONTRIBUTION TO THE ETIOLOGY OF BLINDNESS.

BY DR. M. LANDESBERG,
Of Philadelphia.

The knowledge of an evil is an important step toward the removal of it. If this maxim is so essential in regard to the evils of the social life, how much more must it be with the diseases of the human body, the knowledge of the etiology of which not only greatly in-

fluences the treatment, but affords the best means either to check the disease in its beginning or to prevent it entirely.

The science of the etiology of diseases is yet in its infancy, affording but few satisfactory results. This arises mainly from the difficulty of the subject itself, the causes of one disease being various, according to locality and circumstances, and because, in many cases, the same cause is able to produce various kinds of diseases.

In our special branch of science, the question of the causes of blindness has till now occupied but few authors. And yet this subject is deserving the greatest consideration of the men of our profession, because, in my opinion, not the statistics gathered by census, but the records of the oculists are fit to advance our knowledge on this matter. In a census the percentage of errors must be very great, partly arising from individual neglect, partly from disinclination to verify personal infirmities. And even the statement of the facts themselves is defective, because there is no mention made, either of the causes or of the nature of blindness.

Every oculist of some experience will agree with my observation, that in every census the statistics of cases of blindness are incorrect and untrustworthy. So many cases of blindness are not at all accounted for, and so many are noted which are not, or which afterward recover either a part or the whole of their sight. Take, for instance, all people suffering from cataract, whose blindness is only temporary, and of which number the greatest part can have their sight restored by an operation.

The only reliable and trustworthy record can be made by the oculist within the sphere of his activity. By exact and careful observation, he only is enabled to contribute to the knowledge of the causes of the great loss of vision, among the various classes of people, and to point out the measures to strike at the root of the diseases. Of course, I cannot deny that this is difficult work, involving great loss of time, and entirely impossible under certain circumstances. Every contribution must, therefore, be welcome, indeed, which furnishes the results of personal observation, and deals with facts strictly examined, and faithfully recorded.

Of 8767 eye patients who came under my observation during my residence at Elberfeld within 7 years, there were 580 whose sight was hopelessly lost. From this number are excluded

all cases of primary cataract, and those cases of blindness which afforded any hope of improvement, as, for instance, cases of partial detachment of retina and of atrophy of optic nerve, where the process of disease was not yet ended.

The causes of blindness of the 580 cases were as follows:—

i. Affections of the conjunctiva resulted in 43 cases of blindness, viz.,

(a) Granular conjunctivitis caused 26 cases of blindness; of 12 men and 14 women. Loss of both eyes of one man and one woman each.

(b) Blennorrhoeic conjunctivitis caused six cases of blindness, of 4 men and 2 women. Loss of both eyes of one man and one woman each.

(c) Diphtheritic conjunctivitis caused the loss of both eyes of a child four years old.

(d) Blennorrhœa of new-born infants led to blindness in 15 cases, with loss of both eyes in two cases. Of the fifteen children, three were brought to me at an advanced age, viz.: 1. A boy, fifteen years old, with total leucoma of the cornea of both eyes. 2. A girl, five years old; with total leucoma of the cornea, and atrophy of the left eye. 3. A girl, eleven years old, with phthisis of the right eye. The other children came under my observation between the first and ninth week after delivery.

In the eight cases of blindness of both eyes, the suppuration of the cornea was, at the time of first examination, so far progressed that there was no chance left to check the morbid process. In seven cases, the previous treatment was for the most part in the hand of the midwife. But even where a physician was called in, no competent treatment had been adopted.

In all cases of one-sided blindness, the cornea of the other eye was also affected at the time of my first examination. In three cases normal vision was recovered; in one case, where there was central leucoma of the cornea, with prolapse of iris, a certain amount of vision could be restored by subsequent iridectomy.

ii. Primary affection of the cornea caused blindness in 85 cases; of 37 men (of both eyes in three cases), 29 women (of both eyes in two cases), and 19 children (of both eyes in one case).

Of three cases of epithelioma of the cornea with consecutive irido-cyclitis, causing loss of vision, one was of a chimney-sweep.

iii. The affection of the uveal tract (iritidochoroiditis with its consequences) caused 58 cases of blindness—of 24 men (of both eyes in two cases), and 34 women (of both eyes in three cases).

Of the women there were four girls, aged respectively, 17, 19, 23 and 24 years, who were affected by amenorrhœa. Of these, one girl, 17 years old, suffered from severe chlorosis, and the others from congestion of the brain, complicated with severe neuralgia of the head; of these four girls, two lost both eyes. No anomalies of the sexual organs could be ascertained.

iv. The affection of the retina caused 14 cases of blindness, of 8 men and 6 women. Of the former, five lost both eyes, of whom, two by pigmentary retinitis. Of the latter, two lost both eyes, of whom, one girl, 18 years old, by pigmentary retinitis. Of her three brothers and four sisters, five (three brothers and two sisters) were also suffering from pigmentary retinitis.

One girl, sixteen years old, lost her left eye by apoplectic retinitis, following a severe metrorrhagia, which had occurred three months previously.

v. The detachment of the retina as a consequence of myopia caused 38 cases of blindness, of 30 men and 8 women. Of the former, six lost both eyes, of the latter, two.

For most of the cases, a hereditary tendency to myopia could be traced. The myopia of the other eye was varying between $\frac{1}{5}$ to $\frac{1}{2}$.

vi. The affection of the optic nerve caused 46 cases of blindness, viz.:

(a.) The genuine atrophy of the optic nerve caused 28 cases of blindness, of 24 men and 4 women. Of the former, 20 lost both eyes, of the latter, 3. In twelve men, the abuse of alcoholic liquors and tobacco could, with certainty, be established as the cause of blindness.

(b.) The secondary affection of the optic nerve, in consequence of affection of the cerebro-spinal nervous system, caused 18 cases of blindness, of 14 men, 2 women and 2 children. Of the men, 8 lost both eyes, and of the women, 2.

The primary affections of the cerebro-spinal nervous system were commotion of the brain, encephalitis, tabes dorsalis, creeping paralysis, tumor of the brain, softening of the brain, and basilar meningitis. The secondary affections of the optic nerve were atrophy and neuro-

retinitis descendens. Both children lost their sight by neuritis descendens, in consequence of a tumor of the brain.

vii. The glaucoma produced 41 cases of blindness, of 28 men and 13 women. Of the former, 13 lost both eyes, of the latter 3. In many cases the iridectomy was not performed at all, partly through neglect of the patient, partly of the attending physician. In some cases the iridectomy was performed too late, and in others it was very defective.

viii. Unsuccessful operations caused 32 cases of blindness, of 18 men, 11 women and 3 children. The loss was caused, (1) by operation of cataract in 28 cases (of both eyes, in one man and two women); (2) by iridectomy in 3 cases; (3) by advancement of external rectus in one case.

ix. 37 cases of blindness, of 23 men and 14 women, are mentioned in my diaries, the etiology of which either could not be ascertained at the time of examination, or was not recorded. Of this number two men were blind of both eyes.

x. Tumors of the eyeball caused 12 cases of blindness. Of this number 4 men and 3 women lost their sight in consequence of sarcoma of the choroid, and 5 children, between the ages of eighteen months and six years, in consequence of glioma of the retina.

xi. Tumors of the orbit caused 6 cases of blindness, of which number three men and two women became blind in consequence of sarcoma, and one boy, four years old, in consequence of echinococci in the orbit.

xii. Congenital blindness was observed in 8 cases, viz.:—

1. Corneitis intra-uterina of both eyes;
2. Choroideo retinitis intra-uterina of both eyes in 2 cases;
3. Congenital anophthalmus in 4 cases, of both eyes in one case;
4. Congenital buphthalmus of one eye.

xiii. The traumatic lesions of the eye caused blindness in 118 cases, of 71 men (of both eyes in three cases); 19 women (of both eyes in one case), and 28 children.

The injuries occurred:—

(a) of the Men.

In pursuit of professional duties,	in 26 cases.
By accident,	13 "
By assault and battery,	23 "
By burning,	1 "
In the war,	2 "
Through explosion,	6 "

(b) of the Women.

By accident,	10 cases.
By assault and battery,	8 "
By burning,	1 "

(c) of the Children.

By carelessness,	15 cases.
By assault and battery,	8 "
By accident,	5 "

xiv. General disease of the body led to consecutive blindness of the eye in 35 cases, viz.:—

Small-pox caused blindness in 14 cases as follows:—

(a.) In consequence of blennorrhœic conjunctivitis in one man. Loss of the left eye, through secondary suppuration of the cornea.

(b.) In consequence of primary affection of the cornea, in 13 cases—of 4 men, 6 women and 3 children. Of men and women one lost both eyes. Of all patients only two (one man and one woman) had been vaccinated.

Severe hemorrhages caused blindness in 4 cases, viz.:—

(a.) Of a merchant, in consequence of blood-vomiting; loss of both eyes.

(b.) Of a seamstress losing the sight of her right eye two weeks after profuse metrorrhagia had been arrested.

(c.) Of a girl, who gradually lost the sight of her left eye, in consequence of profuse epistaxis.

(d.) Of a woman, whose right eye became blind in consequence of frequent attacks of metorrhagia.

In all cases the loss of sight was caused by atrophy of the optic nerve.

Puerperal Affections led to blindness of three women, of whom two lost both eyes, through trido-choroiditis metastatica.

Cerebro-spinal Meningitis caused blindness of three children, of whom one lost both eyes, through affection of the optic nerve and retina.

Typhoid Fever caused blindness in two cases, viz.: Of a man (right eye) in consequence of irido-choroiditis; of a woman (right eye) in consequence of neuro-retinitis.

Measles caused blindness of both eyes of a girl six years old. The background of the eye, examined a year after the blindness took place, showed atrophy of the optic nerve.

Diseases of the Heart caused blindness of four men (of whom one lost both eyes) in consequence of embolism of arteria centralis retinae.

Gonorrhœa led to blindness of four men, of both eyes in one case; all of them transferred

the gonorrhoeic matter into the conjunctiva, giving rise to suppuration of the cornea.

Syphilitic affections caused blindness of two men; one lost his right eye, by exostosis of the orbit, leading to exophthalmus and to secondary suppuration of the cornea. Infection three years previous. The other lost his right eye by atrophy of the optic nerve. Infection six years previous.

1605 Arch Street.

HOSPITAL REPORTS.

UNIVERSITY HOSPITAL.

SERVICE OF H. C. WOOD, JR., M. D.,

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Specially reported for the MEDICAL AND SURGICAL REPORTER.

Locomotor Ataxia.

CASE 1.—The patient is a lumberman by trade. His present troubles date back some three years, or more. There was first stiffness and then pain in the knees. The pains came on about six months after the stiffness. These pains were of a cramping character, and left a temporary local soreness behind. The pain was always localized, although it appeared at different points upon different occasions.

There is evidently sclerosis of the posterior portions of the cord here. The suddenness of the seizure and the come-and-go nature of the pains are pathognomonic. The pains of locomotor ataxia usually attack the extremities; they may, however, be localized in any one of the internal organs. I remember one instance in which there was the most horrible gastric pain, with vomiting at intervals of every two or three hours, the patient being perfectly well between the attacks. Again, there have been cases in my private practice in which the rectum, bladder and genital organs have been the seats of the pains.

In locomotor ataxia there is generally disturbance of both motility and sensibility. Be very careful that you do not mistake it for rheumatism. The points of differential diagnosis are the following: In locomotor ataxia there is no swelling nor redness, and no organic change in the part, except in the case of local atrophy, which shows that there is sclerosis of both the anterior and posterior columns. Moreover, the pain is not, as in rheumatism, made worse by motion, and is not confined to any one spot. In rheumatic neuralgia there will very often be found a persistent tenderness over the course of the nerve trunk. Rheumatic neuralgia is rarely bilateral, whereas the pain in locomotor ataxia very frequently attacks both legs. The other symptoms, too, of locomotor ataxia very quickly come to your assistance, such as loss of the power of coördi-

nation, disturbances of motility, defects of vision, and quite frequently a state of extreme sexual excitement, followed by complete impotence. The disturbance of vision is shown in the inability to distinguish between colors. Upon examining the eye with the ophthalmoscope, you will usually find considerable degeneration of the optic nerve.

From the fact that in this case there are no pains in the upper part of the body, and no disturbance of vision, we may conclude that the lesion is confined to the lower part of the cord. The centres presiding over the sexual act are in the lower lumbar region.

Our patient has suffered from complete loss of the sexual function for the past year. This impotent condition was preceded by one of abnormal excitement. His form of impotence is one quite common in such cases—one attended with frequent seminal emissions. The loss of power, therefore, depends upon the inability to produce erections. This would indicate that erection is not a passive state, for if, as some physiologists say, it be due to vaso motor paralysis, in locomotor ataxia we should find a constant state of erection.

This man also suffers from considerable weakness in the legs, so that he finds it impossible to walk up and down stairs. Though he can walk better by daylight than at night, or when he keeps his eyes shut, yet he does not present, to a perfect degree, the disturbance of the coördinating power found in typical cases of this disease, for in such cases the patient cannot walk with his eyes shut without stumbling. This man has, however, the peculiar pains of locomotor ataxia, together with a decided loss of muscular power, and quite marked disturbance of the power of coördination, as evinced by his shuffling gait. We, therefore, have not a pure, but a mixed case here. Together with the usual lesion of the posterior columns of the spinal cord, there is probably a lesion of some other portion of the cord. Locomotor ataxia, indeed, is not a true disease, but only a symptom. The real disease is sclerosis, which may take the form of acute muscular atrophy, or of locomotor ataxia, or of half a dozen other different diseases, according to the situation and nature of the organic lesion. This case is probably a mixed one, of specific origin. I find, upon close questioning, an indistinct history of venereal disease. The infection was not, however, followed by any secondary or tertiary symptoms, so far as the man knows. In five cases out of six, such as this, the venereal history will be found to be a very vague one. If this case turns out to be one of specific origin, the sclerosis will be found to have invaded both anterior and posterior columns. This man, as you have been told, suffers from the characteristic pains of the disease. In Case 2 you will find that there has been an entire absence of the characteristic pains.

The prognosis in this case is very unfavorable, unless the disease turns out to be of specific

origin; otherwise treatment is almost hopeless. In some cases nitrate of silver does good. I have put this man upon twenty grains of the iodide of potassium, with one-twenty-fourth of a grain of the bichloride of mercury, in an ounce of the compound decoction of sarsaparilla, thrice daily.

CASE 2.—This man says he felt entirely well two months ago. The first warning of his present troubles was a numbness of the lower extremities, which began in the feet and crept slowly up the legs. It was not so much loss of feeling as an altered state of sensation of the part. A few weeks after this he experienced some difficulty in walking—a certain loss of control over the movements of the lower limbs. Once, when in the woods, he tried to jump from one log to another, and was surprised to find that he had missed his mark. Though his walk is not steady at present, he has no very great difficulty in getting along when it is light and he can see his path, but at night, or when he closes his eyes, he at once stumbles and falls.

Upon more careful questioning I find that the patient had syphilis when he was young. Furthermore, that, when in a hospital, during the war, in 1862, he found great difficulty in passing water. Still more lately, but some time before his present symptoms came on, he was in the habit of sitting a great deal on the sharp top of the back of a chair, when a clerk in a business office. He says, too, that he suffers constantly from piles.

Now, diagnosis in this case is very difficult. From the man's walk, any one would say at once, that this was a case of Duchenne's disease. In locomotor ataxia, the most prominent symptom is the progressive loss of coördinated movement, as shown in a disordered gait. There is also usually numbness of the lower limbs, quite frequently very marked interference with the passage of urine, and occasionally great constipation of the bowels, attended with bleeding hemorrhoids. But on the other hand, there have been no pains in the limbs experienced at any time by this man, and the disease has developed, not slowly, but very rapidly. In locomotor ataxia, too, there is usually disordered vision, which is not present here at all. [The lesion in locomotor ataxia is in the posterior horns and columns of the spinal cord.] This case, from all the above, though it simulates locomotor ataxia, can hardly be called a typical instance of that disease. But we have other possible explanations. It might be the result of specific disease; local, syphilitic lesions of the cord.

Again, the peculiar habit which the man had of sitting on the back of his chair would also explain his present troubles. This might have caused a partial local paralysis, with reflex irritations of the genito-urinary and other nerve tracts.

Some patients have a natural tendency to weakness of the bladder, and in these cases there is nearly always some gradually developing spinal disease. This patient thinks that

his disease has developed within two or three months; but how can we say that his early attack of syphilis did not give rise to a slowly progressing spinal lesion, which showed itself first in 1862 by constant and obscure dysuria, and more recently and openly by these symptoms simulating locomotor ataxia.

Da Costa, in his "Diagnosis," speaks of cases of locomotor ataxia of syphilitic origin which exactly resembled cases of idiopathic locomotor ataxia, except in the absence of any marked neuralgic pain. The dysuria, loss of coördinate movement, loss of sensation, and all other usual symptoms were present. I have no doubt that this may be just such another case, and I will order the man put upon a regular course of the bichloride of mercury and iodide of potassium. Electricity shall also be tried, and I will let you know the results hereafter.

An Obscure Case.

This man had an attack of fever and ague some three or four years ago, while working as a boatman. Ever since that time he has noticed a failure of strength in his legs. This loss of power has been very marked during the past two years.

The diagnosis in this case is exceedingly difficult. There has been, as the man tells us, a progressive, increasing loss of power, which at no time has become complete, with excessive wasting of the muscles, but no loss of electromuscular contractility. The trouble may possibly be of the character of chronic muscular atrophy, in which, as you know, there is chronic degeneration of the gray cells in the anterior cornu. On the other hand, the disease may be purely local in its character. In this case the legs are symmetrically affected; this condition is rare in chronic muscular atrophy. What the man mentions as an attack of fever and ague may possibly have been one of acute muscular atrophy. Though exposed to malarial influences the patient says he did not vomit much, but that his skin was very yellow.

You notice that the veins of the legs below the knees are varicose. This state alone would be enough to impaire the nutrition of the limbs. The muscles have grown much more attenuated than would be natural in so robust a man.

This disease must be one of two things. It must be due either (1) to degeneration of the multipolar cells in the anterior cornu, or (2) to purely local changes in the muscles. I was at first inclined to believe in the former condition, but upon further consideration, the symmetrical character of the symptoms lead me to doubt this conclusion. From the fact that the limbs have never regained their former size, that the man had to go to work before he had entirely recovered from his malarial attack, and now has to stand up all day while at his work, I am willing to give him the benefit of the doubt, and call the case one of disease of the muscles.

The proper treatment for the case will be rest, the use of an elastic stocking for the varicose

veins, and the application of that kind of galvanic current which causes the most contraction with the least pain. You see that the muscles of the leg respond very well to the faradic current. Every other day I will order my assistant to give a hypodermic injection of strichnia into the affected muscles. Of course, quinina and tonics are also indicated.

Broadbent's Theory of Hemiplegia.

Hemiplegia is usually spoken of as a palsy of one side of the body. Strictly speaking, this definition is not the correct one, for the muscles of the trunk are usually unaffected. Hemiplegia is, therefore, in reality, a palsy of an arm and leg on one side of the body. Why is it that the lateral muscles of the trunk are not also affected as well as those of the extremities. Broadbent, of London, has advanced a theory to explain this seeming anomaly.

Did any of you ever try to breathe with one side of your chest alone? Of course you could not do it. You will find it very hard to depress one eyebrow and elevate the other. The reason of this is that these muscles are associated in their movements. There must be some fusion of, or very intimate connection between, the centres which control these muscles. Let us suppose, then, says Dr. Broadbent, two rows of centres of motility throughout the length of the cord, by means of which centres the limbs are moved. A clot is thrown out in the corpus striatum, and all voluntary motion on that side of the body is prevented; but all the motor cells of the cord are joined together by commissural fibres. Thus, while all voluntary movement is stopped on one side of the cord, the nerve paths of the other side of the cord are still open to impulses. So the impulse communicated to the associated centre on one side runs across, by a commissure, to its fellow of the other side, and moves its subject muscle also. The impulse from one side of the brain throws both of the associated series of muscles into action. But why, you will say, does not the same rule hold good for the centres which control the arms and legs? True, all the centres of the cord are joined together, but the nervous pathways between the muscles of the two arms and two legs are not near so open to nerve impulses as is the case between the centres of the associated muscles, hence the impulse does not travel freely over them.

Let me repeat briefly what Dr. Broadbent says, viz.: the habitual action of pairs of muscles shows that their centres are closely bound together by commissural fibres. In any palsy of one side of the body, the movement imparted to the nerve centres of the muscles of the trunk on the injured side of the body comes from the other side of the brain, and travels over the commissural fibres.

Rachitis.

This child is thirteen months old; until within the past five months has been tolerably well. It has never, indeed, been a perfectly healthy

child. Its power of grasp has never developed at all. The family history is not a good one. The child's father has had syphilis. The child has never made any attempt to walk. Its limbs are very small and very cold. There is a slight tendency to rigidity, and I also notice a decided antero-posterior curvature of the spine and some lateral curvature. The child sinks down into his mother's lap and seems altogether unable to hold itself up straight. Several of the dorsal vertebrae are prominent.

Now what name would you give to this condition? It could scarcely be a case of caries in the dorsal spine, for caries so low down would not affect the muscles of the neck. If there were caries, there would be some local tenderness, which there is not here. It might be acute infantile palsy, but the disease is too general for that. What about rickets? There is some slight beading of the ribs, and another very characteristic symptom—the child lies with its feet crossed. You have heard that this child has probably inherited some syphilitic taint from its father. As a proof of this, notice what a general state of malnutrition it shows. Its osseous, nervous, and muscular systems are all imperfectly developed.

How would you treat such a case? The great remedies for this child are phosphorus, iodide of potassium, iodide of iron, and cod-liver oil. Of course the little patient must be warmly clothed, have plenty of good food, and also plenty of fresh air and sunlight. As it is very possible that the milk which it is drawing from its mother is poor, I would say take the child away from the breast at once, and feed it upon good, fresh cow's milk. Grated beef, with brandy and sugar, will be very good for it. Give it also pepsin, with small doses of hydrochloric acid after meals.

As regards medical treatment, I have already sketched out for you the main items. I would give thrice daily, but at different times, from five to ten drops of dialysed iron, and one-half a drop of Lugol's solution. With these remedies tonics should be employed internally, and general faradization applied to the body, for its tonic effects.

—The appeal of the insurance companies to the Austrian Government to obtain a satisfactory disinfection of the fields of the late battles in Bulgaria and Roumelia is an instance of the singular complications of modern society. A number of dead bodies lie unburied in Turkey, and an epidemic is dreaded in Vienna, which may seriously affect the calculations in the actuaries' tables. Apprehension is certainly not unreasonable; the frightful form of typhus which is now raging in Southeastern Europe and in Armenia may well make the directors of insurance offices uneasy, to say nothing of the insurers themselves, who have probably hitherto given little thought to the matter.

EDITORIAL DEPARTMENT.

PERISCOPE.

On Indigo in the Urine.

This interesting fact was illustrated recently by a paper before the Pathological Society of London, in which Dr. Ord described a calculus containing indigo. Indigo was sometimes found in normal urine; indican existed in all urine. No indigo had ever hitherto been discovered in a calculus. This stone contained a large quantity of indigo blue. He had the calculus and the kidneys sent him. The calculus was a mass like a lozenge in the pelvis of the right kidney. The kidneys were diseased, and the right one was suppurating. The calculus was brown in the interior, crusted over with blue-black material. When a portion was burnt on platinum-foil, it gave out a sooty smoke like burning indigo. It burnt nearly completely, the ash being chiefly phosphate of lime. Under the microscope, the brown part was seen to be a crystalline mass of a blue color, which was not blood-pigment. When dissolved in hydrochloric acid, there was a black residue, with blue characters. Was this indigo? If a small part were put dry into a test-tube, and heated to a degree below redness, a bulky vapor was produced like iodine vapor; and, when the heat was removed, this crystallized in six-sided tablets, like indigo. When looked at through the spectroscope, the spectrum agreed with that of indigo; the yellow band being hid by a darker band. The question was, how was it formed? There was nothing in the diet or in the medicine, though creasote had been given freely to check the vomiting. Dr. Ord then spoke of indogen and of indol. Indigo in the urine might be connected with anything hindering the passage of feces down the small intestines. It was also found in the urine of cholera patients. It was found, too, in chronic suppuration, especially when connected with the urinary tracts. He thought the indigo coloring matter was deposited on a nucleus in the suppurating kidney. The President said that the calculus certainly contained indigo. Dr. Thudichum said it was a remarkable discovery. The material crystallized and vaporized like indigo; it behaved, chemically, like indigo; and gave an identical spectrum with indigo.

On Hydrobromic Acid.

In an article on this new remedy, by Dr. Edward Squibb, in the *Transactions* of the New York State Medical Society, he writes about it as follows:—

The acid is a sedative neurotic, and its principal uses, as developed up to this time, are as an occasional substitute or alternate for

the bromides of potassium, sodium and ammonium. It is well established that the bromine is the active medicinal agent whose influence is sought in the use of these salts. And it is also well known that the alkaline bases, and especially potassium, when given for a long time, are liable to enfeeble the muscular tissues, and produce other changes not desirable, through undue alkalinity of the blood and the secretions; and through the secretions to enfeeble the digestive and assimilative processes. It is true that the proportion of cases in which such effects come into undue prominence is small, but to correct them where they do occur, and to forestall them when likely to occur, without suspending the bromine, whose continuous sedative action is often very important, this acid now comes into use.

It is, however, certainly not well adapted to very prolonged use, for, like other so-called mineral acids, it would be very liable to interfere more with the normal processes of the economy than the bromine salts with alkaline bases. Therefore, for the present at least, it must be regarded simply as an alternate for the bromides, for occasional and exceptional, rather than for general use. Such uses are, however, very important in the treatment of chronic affections of the nervous system, even when neither functional nor organic mischief is observed or apprehended, for several reasons, among which the disgust which patients often acquire for salines when long continued is not the least. In hospitals for the insane, especially in the epileptic wards, it should be very useful, both in effect and in facility of administration, because it can be given in the form of lemonade, if moderate or small doses should prove effective.

It has been highly spoken of as a corrective and preventive remedy for the headache, ringing of the ears, and general cerebral distress, which often follows upon the use of salts of quinia, which should be called quinism, and not cinchonism. When given with, or after the salts of quinia, the disagreeable head symptoms are said to be prevented. It should be remembered, however, that, as a general rule, some degree of this quinism is necessary to indicate the full power of quinia salts, and that irrespective of the quantity given, the full influence as an antiperiodic is never assured without some degree of the head symptoms; and that the dose required to produce the full antiperiodic effect varies very much in different individuals, and even in the same individual at different times. In those cases where small quantities of any of the salts of quinia produce head symptoms of disproportionate severity, so that the desired benefit of the antiperiodic cannot be attained because the sufficient dose can-

not be borne, this acid is said to be very useful, either given with the quinia salt, or later, when the head symptoms begin. It is also said to be useful in nervous headaches and tinnitus from other causes than the administration of quinia salts, and to be effective when given at any stage of the affection.

Other uses to which the acid has been applied with alleged advantage are not yet confirmed.

The acid is not very easily administered in full doses, in consequence of the large dilution necessary, and the disagreeable effect of "setting the teeth on edge." A dose of fifty grains, equal to 41.66 minims, and to twenty-five grains of potassium bromide, requires not less than eight fluid ounces of dilution. And the dilution must contain not less than an ounce of sugar, or two ounces of syrup, to make it easily drinkable. This will be found to be the principal drawback to the use of the acid, unless it shall be proved to be effective in smaller quantities than its equivalence to the bromides indicates. And this effectiveness in much smaller doses is not only probable, but almost certain, if the experience of Fothergill and others may be trusted, since they give it in doses of one-eighth to one-fourth of those here indicated as being the bromine equivalent of potassium bromide. That is to say, the doses advised by those who appear to have used it with the best effects are equivalent to about six to eight grains of potassium bromide. This published experience would make the average dose of the acid here described, say about twelve to sixteen grains, or the bromine equivalent of only six to eight grains of potassium bromide. In the very limited experience of physicians around the writer these doses are too small, and twenty to thirty grains, equal to ten to fifteen grains of potassium bromide, are needed for a prompt sedative effect, while forty to fifty grain doses are not uncommon. And such doses have to be repeated at times in controlling the headache, etc., of quinism. Even such doses require a dilution of two to four fluid ounces of water, for easy administration.

Koumiss in Obstinate Vomiting.

The following case is reported in the *British Medical Journal*, by Dr. N. McCaskie:—

Miss L. G., a young lady, aged 17, having suffered from anaemia for some time, constant vomiting set in, as the result of gastric catarrh. Nourishment of any kind was rejected as soon as taken; and I think I may safely say that all the remedies recommended in such cases were tried without producing any good effect. The patient was kept alive by nutrient enemata. After this condition had continued for a fortnight, I ordered the patient to try koumiss No. 1. Wineglassful doses were given every half-hour at first, and the quantity gradually increased. At the end of the third day the sickness had ceased. Twenty-four ounces were now taken in the twenty-four hours; and for three

weeks this formed the entire nourishment of the patient. On one occasion during this period the supply ran short for one day. Milk and soda water, and milk and lime-water were substituted, but were at once rejected. When the stomach seemed to have recovered a little tone, small quantities of fresh milk were added to the koumiss, and in time Miss G. was able to take light nourishment in other forms, and improved steadily, the koumiss being gradually given up.

About three months afterward the vomiting and other symptoms returned. All remedies failing, koumiss was again resorted to, and without any other treatment the sickness lessened, and finally disappeared. Fresh milk was then carefully added, with five grains of lactopeptine to five ounces of the milk. At this date the patient is steadily improving. No koumiss has now been taken for six weeks, and there has been no return of the vomiting.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT MEDICAL LITERATURE.

—Scarlatina in Chicago, particularly the Epidemic of 1876-77, is the title of a paper by Dr. C. W. Earle of that city. He gives some valuable hints on its treatment and prophylaxis, and winds up with the following query, to which we willingly give further publicity: "Cannot some influence persuade both medical and non-medical men and women to cease publishing their own peculiar and absolute prophylactic? Every article advocating the use of any such remedy produces erroneous impressions among the people, and diverts their attention from isolation, which it is needless for me to say, at this time, I consider the *sine qua non* in the control of scarlatina."

—Dr. D. L. Phares, of Woodville, Miss., gives, in a pamphlet of forty pages, a Synopsis of the Medical Flora of the State of Mississippi. It is an admirable summary of the subject. To be had of the author.

—Dr. A. W. Calhoun, of Atlanta, in an article of eighteen pages, shows that the defects of construction of school-houses, desks, and lighting measures, are responsible for a large percentage of the defective eyesight of children. His advice is summed up in these few words: "If we wish to protect the eyes of children, during the time in which they are acquiring their education, give them, above all things else, plenty of well-regulated light."

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PREMIUM LIST FOR 1878.

The following premiums are offered to our subscribers as inducements for them to aid us in increasing our circulation:—

1. For one new subscriber to the REPORTER, we give a copy either of the *Physician's Pocket Record* (\$1.50), or of Dobell on *Coughs, Consumption and Diet* (\$2.00).

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MEDICINE IN THE FUTURE.

In speculating on the probable position of medicine in the future, that genial writer, Dr. BENJAMIN W. RICHARDSON, of London, has predicted that preventive medicine will take the ascendancy, and under the efficient protection of the State, do away with much of the need of the curative branch of the art. Diseases arising from indulgence in harmful pleasures and appetites, or by overwork and shock, will be removed by the growth of moral influences and self-control. Those arising from defective nutrition, unhealthy homes and deleterious occupations, will be eradicated by the application of a riper knowledge to the removal of these causes. Epidemics will be unknown, for an enlightened State will promptly apply the necessary measures to check their incipiency.

As for curative medicine, goes on this pleasing theorist, it may be said already to have received its death blow. The very word *cure*, even now, does not belong to the scientific nomenclature; nor does that oft-vaunted mystery, the *vis medicatrix naturae*. Nature makes no effort to kill, and puts out no hand to save. A man born to live through a given cycle will live through it free from disease, unless he be stricken from without. A physician, by knowledge, may put the stricken body into such a condition that it may swing back into the regular course of its functions, and that is all he can do; but this is not cure in the common meaning of the term.

Such is Dr. RICHARDSON's dream of the future. It may be supplemented by that common to several political economists which sets forth the status of medical men in an ideal commonwealth. In such a state the profession will be absorbed in the civil service of the government. It will be recognized that each citizen is of value to the State, and that through his sickness all suffer. Therefore, the State will see that he has medicines, medical attendance and nursing at the public expense, gratuitously. It will be recognized that the

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pain and loss of time consequent on illness are bad enough, without having to pay the doctor in addition. Or if pay is required, it will only be in the form of an assessment for the maintenance of the service and the good of the poorer classes.

Within a hundred years vast strides have been taken toward the realization of such a scheme. Already it obtains in nearly all the military organizations of the civilized world, and in several of the civil services. The system of clubs, widely prevalent in England, is becoming common in this country. Dispensaries, hospitals and medical missions are increasing daily. Quite recently a well planned effort has been commenced in England to introduce hospital privileges to the middle and richer classes, and the project has been so framed as to have much in it attractive to practitioners. While, of course, this, as any plan, has met strong opposition from the obstructionists, who look with suspicion on anything new, it bids fair to be sanctioned by many of the best men in London. Its aims briefly are:—

1st. To provide hospital treatment, skilled nursing, a convalescent institution, and other accommodation for the benefit of all classes, when attacked by illness, who can afford to pay; and for the assistance of the medical profession generally.

2d. To provide, furnish, maintain, and regulate such buildings with fittings and convenience for the benefit and comfort of patients and others.

3d. To coöperate with the managers of the present hospitals supported by private charity, with the object of preventing the abuse of hospitals by people who can afford to pay for their treatment.

4th. To provide for the assistance of the medical profession, and for the benefit of the public, a well-regulated hospital, to which the former can send, with confidence, private patients who can afford to pay adequately for the accommodation which they require, and in which the patients will have the advantage of being treated by their own doctor.

All these endeavors are laudable, and the ad-

vantages the project offers cannot be overlooked. In a similar manner in many of the towns on the Continent, frequented by Americans and English, it is proposed to establish such "Home Hospitals." All this looks more and more toward the "free medicine" of the future.

NOTES AND COMMENTS.

The Causes of Intemperance.

Dr. Charles W. Earle, of Chicago, in the Seventh Annual Report of the Washingtonian Home, undertakes to answer, from the records of that Institution, the questions, Why do men commence the use of stimulants? and, after periods of reformation, Why do they relapse? In half the cases, he finds they commence from association with tippling friends. Trouble of various kinds and dealing in the article come next. Trouble also is the principal cause of relapses, and next to it comes association with dissolute companions.

It is very noticeable that the custom of having alcoholics at the family table is accused as the cause by only two per cent. of the beginners, and that the prescribing of stimulants by physicians is not spoken of at all by them, nor by those who have relapsed. Dr. Earle does not consider alcoholism a disease, and indulges in a fling at the American Association for the Cure of Inebriety, a position we regret to see him occupy.

Snake Poison.

Mr. Pedler has been making some elaborate experiments on snake poison, with a hope of discovering an antidote, but hitherto without success. His results are published in the *Transactions of the Royal Society*. Ammonia, as an antidote for application to the wound, he has proved to be utterly worthless. Iodide of methyl and hydrochloric acid diminished the activity of the virus, and platinum perchloride formed with it an almost insoluble and inert compound. Neither of these substances, when injected after the poison, proved capable of preserving life. Artificial respiration has caused, in several instances, an apparent revival of life in persons and animals who seemed to be already dead, but in no case has it averted the fatal issue.

Dangers from Salicylic Acid.

This is certainly a substance which should be administered with considerable caution. Several instances where it produced disagreeable consequences have been heretofore mentioned in these pages, and we note that Dr. Watelet communicates a paper to a late number of the *Bull. de Therap.* on this subject, entitled, "Accidents following the Administration of Salicylic Acid." The details are given of two cases of rheumatism treated by salicylate of soda, one of which was followed by gangrene of the lower extremities, and both by cystitis, obstinate constipation and coldness of the extremities.

Insect Powders.

The remarks we made on this subject a few weeks ago (REPORTER p. 216) having elicited several inquiries, we may add that two varieties of *pyrethrum* are imported into this market, and sold under the name of Persian insect powder. The first is the product of *P. carneum*, which is brought from northern Persia and Georgia, near Tiflis; the second comes from Trieste, and is collected in Dalmatia. The latter is the *P. cinerariaefolium*. Both varieties are often adulterated with the worthless powder of the allied species, *chrysanthemum leucanthemum*, the common field daisy. The flowers of the *pyrethrum* should be gathered before they are fully open, as then its insecticide powers are most active.

CORRESPONDENCE.**An Unusual Case of Polypus.**

ED. MED. AND SURG. REPORTER:—

The following case is reported because of the rarity of such cases, and the complete relief which followed the surgical operation for its cure.

Mr. William G. Jordan had been suffering from some trouble with his left eye for several years before I was called to see him. Disease of the maxillary antrum, or of the nasal passage, or of both, was indicated by progressive prominence of the eyeball. This pressing forward of the ball had gone on until, when I first saw him, it was out of the orbital cavity, had dragged the upper lid down with it, and was resting over the cheek upon an everted lower lid. The entire mass in and in front of the orbital cavity was nearly as large as a man's fist. The upper lid was stretched until it would measure two and a half or three inches from its centre to the superciliary ridge. There was a knuckle-like

prominence in the centre of the upper lid, looking as though it might be caused by a nodulated tumor. But this, as also the entire surface of the upper lid, which formed the roof of the tumor, was soft. The patient insisted on immediate surgical relief, and was willing to submit to almost anything. The pain and loss of sleep caused by the tension and pressure of the nerves was rapidly affecting his general health. Although the nasal passage on the side of the affected eye was then, and had been for ten years, the seat of small polypi, it was evident that the displacement of the eyeball was not caused by a growth inside of the nostril, but on the contrary, whatever might be the nature of the growth, it had its origin from some point in the orbital cavity immediately behind the eye. I had never seen, nor read of, a case of polypus growing from the posterior surface of the mucous membrane of the eye, nor did I know of any point of communication between the nostril and orbit through which it could have passed. The lachrymal duct was not only open, but there was no considerable distention of the nostril in this region. These items are mentioned to show that my diagnosis could not have been otherwise than obscure.

I was assisted in the operation by Dr. William Craddock, of Lowndes Co., Miss. The patient was informed, before the cutting commenced, that he would, in all likelihood, lose his eyeball, because we had no means of knowing the connections of the tumor. An incision was made from near the inner angle of the eye, through the middle of the upper lid, across the prominence to which we have alluded, and ending near the outer angle. We cut through the lid behind the conjunctival attachment, and came directly upon a gelatinous polypus, which we removed through the incision with but little trouble. It was enclosed in about three ounces of straw-colored serum, was flattened by its position, bent and doubled upon itself, and when dislodged and straightened was about six inches long. It was gelatinous and streaked with blood vessels. When the tumor and water were removed, the eye returned to its normal position without difficulty. The patient has made a good recovery, and has a good, healthy eye.

Z. P. LANDRUM, M. D.
Columbus, Miss.

Notes from Practice.

ED. MED. AND SURG. REPORTER:—

Recently, being called to a woman in labor, I found she had had pains intermittently for fifteen hours past. Vertex presentation and right hand far down in vagina, wedged in and preventing progress of labor. Not being able to obtain any chloroform near by, I was induced to administer a large dose of chloral and morphine combined. In the absence of a pain (the system being somewhat relaxed), I introduced my hand, and clasping the child's hand, pushing gently and regularly upward, I finally succeeded in getting it up by the head, and, hold-

ing it so far a minute or more, it glided past, and a pain coming on, I was rewarded in my efforts by a speedy and successful delivery of a fine boy, weighing twelve pounds.

CASE 2.—Shortly after reaching home, late in the evening, I was sent for, in a great hurry, to visit a girl (two miles off) having convulsions. Taking the precaution to carry chloroform with me, I was enabled to check the paroxysms, and delivered her of four (dead) boys. She was not more than five months gone. There were two entirely separate placentas. The cords from each pair appeared to be attached near together. She made a good recovery.

Alabama.

R. H. DUGGAR, M.D.

NEWS AND MISCELLANY.

Medical Society of the State of Pennsylvania.

The Twenty-ninth annual session will be held in Pittsburg, on Wednesday, Thursday and Friday, May 29, 30, 31, 1878, commencing on Wednesday, at 3 P. M.

The following may be expected:—

The Address in Medicine, by Dr. Henry T. Coffey, of Pittsburg.

The Address in Obstetrics, by Dr. William Goodell, of Philadelphia.

The Address in Surgery, by Dr. Samuel W. Gross, of Philadelphia.

The Address in Hygiene, by Dr. Benjamin Lee, of Philadelphia.

The Address in Mental Disorders, by Dr. Jas. A. Reed, of Dixmont.

Action on the resolution from the Committee on Medical Education: (Special order for the second day.)

"Resolved, That every member of a County Society organized, or which may hereafter be organized, under the regulations of the Medical Society of the State of Pennsylvania, before receiving any person as a student of medicine, shall require him to enter into a contract to pursue his studies for a period of not less than three years; and it shall be the duty of his preceptor to present him a certificate, countersigned by the secretary of the local society of which he is a member, setting forth the facts as above stated.

"Resolved, That it shall be the duty of all members of the profession holding allegiance to the Medical Society of the State of Pennsylvania, to recommend their students to attend only such medical colleges as rigidly enforce the full three years' course of study in their curriculum, and otherwise conduce to elevate the standard of graduation."

The following Committees are to report:—

On Care of Insane, Dr. John Curwen, Chairman.

On Medical Legislation, Dr. R. L. Sibbett, Chairman.

On State Board of Health, Dr. W. B. Atkinson, Chairman.

On Legislation against Criminal Abortion, Dr. Andrew Nebinger, Chairman.

On Female Assistant Superintendents in Female Department of Insane Asylums, Dr. Hiram Corson, Chairman.

AMENDMENT TO CONSTITUTION (to be acted on).

ART. III., Sec. 5. Strike out "continues to reside in the county for which he was originally delegated." Add "Any member of this Society may, by change of residence, transfer his membership to any other regular county society, without prejudice to his standing in this Society."

Secretaries of County Societies are earnestly requested to forward, at once, to the Permanent Secretary, complete lists of the names and residences of their officers and members.

All who propose to attend the Session at Pittsburg should apply to the undersigned, with stamp, for orders for excursion tickets. The Pennsylvania Central, the Philadelphia & Erie and the Philadelphia & Reading Railroads, will carry excursionists to the session at reduced rates.

W. M. B. ATKINSON,
Permanent Secretary, 1400 Pine Street, Phila.

Lawrence County (Pa.) Medical Society.

At a meeting of the Lawrence County Medical Society, the following officers were elected to serve the ensuing year: President, Dr. R. D. Wallace, of New Castle. Vice President, Dr. S. Stevenson, of New Bedford. Secretary, Dr. John D. Wood, of New Wilmington. Treasurer, Dr. H. P. Peebles, of New Castle.

Profits on Drugs.

A New York letter says: The manufacturing chemists are reported to be in an unfavorable position in regard to supplying the demand for morphine as they have been for some weeks past in filling orders for quinine. In the trade it is stated that the manufacturers will be taxed to their full capacity for some time to come in promptly making deliveries on contracts effected at \$3.80 per ounce. A number of parties who are receiving stock at the contract prices, it is said, virtually have control of supplying the jobbing trade, and are obtaining \$4.35 a 4 40 per ounce for what they are receiving from manufacturers at \$3.80 per ounce.

Is it not time that government took off the duty on these drugs?

Professional Privileges.

The regular Medical Societies of this city are endeavoring to obtain the passage of a law providing that "No person duly authorized to practice physic or surgery shall be allowed or compelled to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon."

Personal.

—Dr. Cornelius Boyle, whose death took place at Washington several days ago, was born in that city in 1817. After studying medicine and being graduated at Columbia, Dr. Boyle began the practice of his profession at the capital, where he rapidly attained to prominence. He was a Democratic leader of note, and President of the Jackson Association in 1860.

—D. W. Kolbe, the well known surgical instrument maker, of this city, died April 7th. He was in many respects a remarkable man, and one to whose earnest industry and scientific skill conservative surgery in Philadelphia is largely indebted. He was born in Marburg, in Germany, about sixty-four years ago, and came to this country as a young man, establishing himself in business as a maker of instruments, for which he had fitted himself in Paris under the instruction of the celebrated Luer.

—Mr. Bergh, the President of the New York Society for the Prevention of Cruelty to Animals denies the existence of hydrophobia. A doctor there undertook to get the better of Mr. Bergh's arguments against the existence of the disease by offering that philanthropist \$2000 if he would consent to be inoculated with mad dog virus. Promptly an unimaginative Scotchman steps to the fore and offers himself as a substitute for Mr. Bergh. He is less important to the world than Mr. Bergh, he says, which leads us to suspect that he may have some imagination after all; and he needs money more. If the doctor will pay him the \$2000 down he may inoculate him to his heart's content. His offer was declined, with thanks.

—Dr. Charles F. Stansbury, for many years the Grand Master of Masons in the District of Columbia, and an eminent commander of Washington Commandery, Knights Templar, died in Washington, March 30th.

OBITUARY.

DR. FRANCIS GURNEY SMITH.

Dr. Francis Gurney Smith, Professor of the Institutes of Medicine in the University of Pennsylvania, who died on Saturday, was born in Philadelphia, March 8th, 1818, and was the son of Francis G. Smith, a prominent merchant. He obtained both his academic and medical education in the University of Pennsylvania, receiving his degree of Doctor of Medicine in 1840. For about a year after graduating he was one of the physicians of the Department of the Insane of the Pennsylvania Hospital. In 1842 he was elected lecturer on physiology by the Philadelphia Medical Association. In 1853 he was elected Professor of the Institutes of Medicine in the University, and for six years, commencing in 1859, he was one of the attending physicians at the Pennsylvania Hospital. In medical literature Professor Smith is well known as one of the compilers of *Compendium of Medicine*, as one of the editors, for nine years, of the *Philadelphia Medical Examiner*, as the author of frequent contributions to professional periodicals, as the editor of American editions of Carpenter's and Marshall's works on physiology, etc., and as the first American translator of Barth and Rogers' *Manual of Auscultation and Percussion*.

At a Special Meeting of the Medical Faculty of the University of Pennsylvania, held April 8th, 1878, the following minute was unanimously adopted —

The Medical Faculty having heard the announcement of the death of their late colleague, Dr. Francis Gurney Smith, Emeritus Professor of the Institutes of Medicine, who for fifteen years was a member of their body, and desirous of placing upon record an expression of their feelings upon this sad event, have

Resolved, That Dr. Smith, as a teacher of physiology, was from the first distinguished by the thoroughness, accuracy and clearness of his expositions, and by such full preparations for his duties, and such a magnetic eloquence, that he inspired his auditors with his own enthusiasm for the science he so skilfully taught.

Resolved, That the Medical Faculty always recognized in Dr. Smith a colleague whose conscientious and enlightened counsel, whose high standard of honor, whose earnest desire for improving medical education commanded their respect, and whose refined, courteous and genial manners always rendered his society attractive and entertaining.

Resolved, That the gentleness and sincerity of his character, and the lively personal interest he took in many of his pupils, secured him an unusual share of their affection, and added the authority of his personal influence to that of his sound and thorough teaching.

Resolved, That the sincere sympathy of the Faculty is hereby tendered to the family of Dr. Smith in a bereavement which no time nor change can cause them to forget, but whose bitterness is mitigated by the reflection that he whom they mourn was, in every relation of life, equal to its highest duties, and not less an ornament to his profession than a model of social and domestic virtues.

Resolved, That the Faculty attend the funeral of our late colleague in a body.

JAMES TYSON, Secretary.

MARRIAGES.

MCNUTT—HALLOWELL.—On the 25th ultimo, by the Rev. D. L. Morrow, Dr. J. S. McNutt and Miss Mary Hallowell, both of Philadelphia.

MOORE—STELL.—On Thursday, March 14th, 1878, at the Methodist Church, Paris, Texas, by Rev. J. H. McLane, Dr. Jas. C. Moore, of the firm of Drs. Hooks & Moore, and Miss Sallie I. Stell, daughter of Dr. W. W. Stell, both of Paris, Texas.

DEATHS.

ANDERSON.—On Saturday evening, April 8th, Lizzie Phillipson, wife of Wm. Anderson, and daughter of Philip DeYoung, M.D., in the thirty-first year of her age.

BINTON.—Of consumption, April 11th, Sallie W., wife of Dr. J. Bernard Brinton, No 755 Corinthian avenue.

DAVIS.—In Philadelphia, on the 8th instant, Dr. T. Rusling Davis.

ELDER.—In Philadelphia, on Friday, April 5th, infant daughter of Dr. J. F. and Martha K. Elder.

HODGE.—On Saturday, April 6th, Harriet Roosevelt, wife of H. Lenox Hodge, M.D., of Philadelphia, and daughter of the late Charles William Woolsey, Esq., of New York.

HUTCHINSON.—On the morning of the 8th instant, in the fifteenth year of her age, Susan Ingersoll, eldest child of Dr. James H. and Annie J. Hutchinson.

MILLER.—At Sea Cliff, Long Island, April 4th, 1878, Dr. William Miller, formerly of New York City, aged 78 years.

SMITH.—In Philadelphia, on the 6th instant, Francis Gurney Smith, Jr., M.D., in the sixty-first year of his age.

TESSIER.—Dr. Pierre Tessier, of Quebec, an eminent physician and accomplished scholar, died on the morning of April the 8th.

VANSANT.—On the 26th ultimo, in Mount Holly, N. J., Dr. William S. Vansant, aged forty-two years.